AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the present application.

Listing of Claims:

1. (**Currently Amended**) A method for calculating **[[**the**]]** activity of a cyclin-dependent kinase in a sample prepared from a living cell comprising the steps of:

catching the cyclin-dependent kinase in the sample by an anti-cyclin-dependent kinase antibody;

reacting adenosine 5'-O-(3-thiotriphosphate) (ATP-γS) with a substrate for the cyclin-dependent kinase in presence of the cyclin-dependent kinase in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate, the substrate not containing a sulfur atom;

~~placing the reacted substrate on a membrane;~~

coupling a labeling fluorophore or a labeling enzyme with **[[**a**]]** the sulfur atom of the introduced monothiophosphate group of the substrate; ~~on the membrane;~~

~~washing the membrane to remove the fluorophore or the enzyme which is not coupled with the substrate;~~

measuring **[[**the**]]** an amount of fluorescence from the labeling fluorophore, or reacting the labeling enzyme with a substance to generate an optically detectable product and measuring the amount of the generated product; and

calculating the activity of the cyclin-dependent kinase from the measured amount of fluorescence or the measured amount of the generated product with reference to a pre-produced reference curve.

2. **(Previously Presented)** The method according to claim 1, wherein the cyclin-dependent kinase is selected from the group consisting of CDK1, CDK2, CDK4 and CDK6.

3. **(Original)** The method according to claim 1, wherein the labeling fluorophore is a fluorescent dye.

4. **(Original)** The method according to claim 3, wherein the fluorescent dye is FITC.

5. **(Currently Amended)** **[[**A**]]** The method according to claim 1, wherein the labeling enzyme is peroxidase.

6. **(Previously Presented)** The method according to claim 1, wherein the cyclin-dependent kinase is CDK1 or CDK2 and the substrate is histone H1.

7. **(Withdrawn)** The method according to claim 1, wherein the cyclin-dependent kinase is CDK4 or CDK6 and the substrate is Rb whose cysteine residue is substituted by alanine.

8-9. **(Canceled)**

10. **(Currently Amended)** A method for ~~obtaining the~~ calculating activity of a cyclin-dependent kinase in a sample prepared from a living cell comprising the steps of:

catching the cyclin-dependent kinase in the sample by anti-cyclin-dependent kinase antibody;

reacting an adenosine 5'-O-(3-thiotriphosphate) (ATP-γS) with a substrate for the cyclin-dependent kinase in presence of the cyclin-dependent kinase in order to introduce a monothiophosphate group into a serine or threonine residue of the substrate, the substrate not containing a sulfur atom;

~~placing the reacted substrate on a membrane;~~

coupling a labeling fluorophore or a labeling enzyme with a sulfur atom of the introduced monothiophosphate group of the substrate ~~on the membrane;~~ in buffer solution;

adding a thiol to the buffer solution to stop the coupling between the sulfur atom and the labeling fluorophore or the labeling enzyme;

~~washing the membrane to remove the fluorophore or the enzyme which is not coupled with the substrate;~~

measuring **[[**the**]]** an amount of fluorescence from the labeling fluorophore, or reacting the labeling enzyme with a substance to generate an optically detectable product and measuring the amount of the generated product; and

[[obtaining**]]** calculating the activity of the cyclin-dependent kinase from the measured amount of fluorescence or the measured amount of the generated ~~product.~~ product with reference to a pre-produced reference curve.

11. **(Previously Presented)** The method according to claim 1, wherein the membrane comprises a hydrophobic part.

12-14. **(Canceled)**

15. **(New)** The method according to claim 10, wherein the thiol is at least one selected from the group consisting of a mercaptoethanol and a dithiothreitol.